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FROST BROWN TODD LLC
201 E. Fifth Street
Cincinnati, OH 45202-4182

EXAMINER	
WHIPPLE, BRIAN P	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	**Application No.** 10/682,601	**Applicant(s)** CLUBB ET AL.
	Examiner Brian P. Whipple	**Art Unit** 2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 09 October 2003.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-22 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/28/07.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-22 are pending in this application and presented for examination.

Response to Arguments

2. Applicant's arguments, see pg. 11-12, filed 8/17/07, with respect to the 35 U.S.C. 112 rejections of claims 1-16 have been fully considered and are persuasive. The 35 U.S.C. rejections of claims 1-16 have been withdrawn.

3. Applicant's arguments filed 8/17/07 with respect to the 35 U.S.C. 102 and 103 rejections have been fully considered but they are not persuasive.

4. Applicant argues that Coughlin teaches away from claim 1 by disclosing an opposite flow. Examiner respectfully disagrees. Coughlin discloses routing a request for work to a corresponding physical node ([0016]), sending said request to a corresponding logical node ([0018]), and processing said request for work on said corresponding logical node ([0022]). A request for web content is sent from a load balancer to a selected server ([0016]), relevant web content is sent from the server to the load balancer ([0018]), and then the load balancer processes the request by either sending verified web content to client ([0022]) or if the web content is not valid, selecting a different server ([0021]). Thus the flow for the work request goes from the logical node, to the physical node, back to the logical node. And may even repeat such a process if web content must be obtained from a server other than the initially selected

server, due to invalid returned content. Consequently, Applicant's argument that Coughlin fails to disclose a request flowing from a physical node to a logical node is unconvincing.

5. Applicant argues that claims 2-4, 6, 11, and 13-15 are allowable due to the novel limitations of claim 1. However, Examiner has maintained the rejection of claim 1 and thus maintains the rejections of claims 2-4, 6, 11, and 13-15.

6. Applicant argues that Hirschfeld fails to disclose computer-executable instructions for implementing Hirschfeld's teachings (relevant to claims 17-18). Examiner respectfully disagrees. This is inherent in the teachings of Hirschfeld and further physical devices (Abstract; Fig. 1) are shown, which inherently include computer-executable instructions to implement the method and system of Hirschfeld. Additionally, Hirschfeld discloses instructions being sent in the system (Col. 11, ln. 8-12).

7. Applicant argues claims 19-21 are allowable for the same reasons as claims 17-18 above. However, Examiner has maintained the rejections of claims 17-18 and thus maintains the rejections of claims 19-21.

8. Similarly, the rejections of claims 5, 7-10, 12, 16, and 22 are maintained due to the maintained rejections above.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-4, 6, 11, and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Coughlin, U.S. Publication No. 2003/0177232 A1.

11. As to claim 1, Coughlin discloses a distributed computer system comprising:

at least one physical node (Fig. 1, items 41-45; the servers are physical nodes);

at least one logical node (Fig. 1, item 30; the load balancer receives the request from a client and returns a result, but does not do the actual processing, thus it is a logical node)

wherein each of one or more of said at least one logical node is mapped back to one of said at least one physical node ([0021]; if the Web content received from a server at the load balancer is not valid, the load balancer sends a request back to another server, which is the logical node being mapped back to a physical node) said system comprises computer executable instructions for performing a method comprising the steps of:

receiving a request for work (Fig. 2, item 100);

examining said request for work ([0015]; [0017]);

determining which of said at least one logical node corresponds with said request (corresponding logical node) ([0015]; all requests correspond with the load balancer, which is at least one logical node);

determining which of said at least one physical node said corresponding logical node is associated with (corresponding physical node) ([0016]);

routing said request for work to said corresponding physical node ([0016]);

sending said request for work to said corresponding logical node ([0018]);

processing said request for work on said corresponding logical node ([0016]; [0018]; [0022]).

12. As to claim 2, Coughlin discloses at least one of said at least one corresponding physical node comprises a corresponding physical datastore ([0010], ln. 2-4; [0012], ln. 8-12);

at least one of said at least one corresponding logical node comprises a corresponding logical datastore ([0012], ln. 1-12; the memory may be remote, which is a logical datastore).

13. As to claim 3, Coughlin discloses at least one corresponding physical node comprises a corresponding physical server (Fig. 1, items 41-45);

at least one corresponding logical node comprises a corresponding logical server (Fig. 1, item 30; [0022]; the load balancer examines Web content received from the physical server and, if valid, sends it to the client, thus the load balancer is a logical server).

14. As to claim 4, Coughlin discloses said corresponding logical datastore is associated with a first predetermined set of data values ([0010]; it is inherent that the load balancer being coupled to the physical servers requires the load balancer to maintain a set of data values associated with the identifying information of the physical servers in order to forward requests to the physical servers);

said corresponding logical server is associated with a second predetermined set of data values ([0021]; a second set of data values representing dead servers is kept by the logical server);

said step of interacting comprises:

opening said corresponding logical datastore ([0018]);

obtaining a set of additional information about said request from said datastore ([0016]; the selected physical server for the request must be determined by the load balancer, which is additional information about the request; the load balancer stores coupled physical servers, which is information stored in a datastore);

determining which of said at least one corresponding physical server and corresponding logical server is associated with a combination of said request and said set of additional information ([0015] – [0016]);

routing said request to said corresponding logical server ([0015]);

allowing said corresponding logical server to access and modify said corresponding logical datastore ([0021], ln. 9-11; the load balancer stores and updates a list of dead servers);

processing said request on said corresponding logical server ([0022]).

15. As to claim 6, Coughlin discloses at least one of said at least one corresponding physical node comprises a corresponding physical server (Fig. 1, items 41-45);

at least one of said at least one corresponding logical node comprises a corresponding logical server (Fig. 1, item 30; [0022]; the load balancer examines Web content received from the physical server and, if valid, sends it to the client, thus the load balancer is a logical server);

said processing said request for work on said corresponding logical node step comprises routing said request to said corresponding logical server ([0015]).

16. As to claim 11, Coughlin discloses said request comprises a data value ([0015]);

said at least one corresponding logical server is associated with a predetermined group of values ([0015]);

said system comprises further executable instructions for performing the steps of:

obtaining said data value from said request ([0015]);

matching said data value associated with said request with one of said at least one corresponding logical server wherein said corresponding logical server is associated with said predetermined group of data values which includes said request's data value ([0015]).

17. As to claim 13, Coughlin discloses if one of said physical servers fails, remapping said corresponding logical servers across a set of remaining physical servers according to a predetermined formula ([0016]; [0021]).

18. As to claim 14, Coughlin discloses said predetermined formula comprises distributing said logical servers on a pro-rate basis across said remaining physical servers ([0016]; [0021]).

19. As to claim 15, Coughlin discloses said predetermining formula comprises analyzing a pre-existing workload and capacity on each of said remaining physical

servers and distributing said logical servers in such a manner as to balance, as much as possible, said workload across said remaining physical servers ([0011]; [0016]; [0021]).

20. Claims 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirschfeld et al. (Hirschfeld), U.S. Patent No. 6,880,002 B2.

21. As to claim 17, Hirschfeld discloses a computerized system comprising a computer readable medium having computer executable instructions for transacting requests over a network comprising at least one physical server wherein said physical server is subdivided into a plurality of logical servers wherein each of said plurality of logical servers is associated with a group of consumer identifiers and wherein said computer executable instructions are configured to route a request, further comprising a consumer identifier, to a logical server whose range of consumer identifiers include said consumer identifier associated with said request (Fig. 2; Col. 3, ln. 12-20; Col. 6, ln. 64 – Col. 7, ln. 62).

22. As to claim 18, the claim is rejected for the same reasons as claim 17 above.

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

24. Claims 5, 7-10, 12, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coughlin as applied to claims 2 and 6 above, in view of Factor, U.S. Patent No. 6,272,523 B1.

25. As to claim 5, Coughlin discloses the invention substantially as disclosed in parent claim 2, but is silent on upgrading said system by performing the steps of:

recognizing at least one additional physical datastore in said system wherein said additional physical datastore is different from said corresponding physical datastore (pre-existing physical datastore);

migrating at least one logical datastore of said at least one corresponding logical datastore from said pre-existing physical datastore to said additional physical datastore;

remapping said logical datastore from said pre-existing physical datastore to said additional physical datastore.

However, Factor does disclose upgrading said system by performing the steps of: recognizing at least one additional physical datastore in said system wherein said additional physical datastore is different from said corresponding physical datastore (pre-existing physical datastore) (Abstract, ln. 6-9);

migrating at least one logical datastore of said at least one corresponding logical datastore from said pre-existing physical datastore to said additional physical datastore (Abstract, ln. 6-9);

remapping said logical datastore from said pre-existing physical datastore to said additional physical datastore (Abstract, ln. 6-9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Coughlin by dynamically adding physical datastores and remapping a logical datastore in response as taught by Factor in order to allow for dynamic, transparent addition of physical datastores (Factor, Abstract, ln. 6-9) for the purposes of easily adding physical capacity and processing power to a distributed system.

26. As to claim 7, Coughlin discloses the invention substantially as in parent claim 6, but is silent on monitoring a workload allocated to each of said at least one physical server;

if said workload, on any of said at least one physical servers, exceeds a predetermined maximum;

adding at least one additional physical server to said system;

remapping at least one of said logical servers across said at least one physical server including said additional physical server so as to redistribute said workload according to a predefined formula.

However, Factor does disclose monitoring a workload allocated to each of said at least one physical server (Column 3, lines 33-36; Column 4, lines 46-49);

if said workload, on any of said at least one physical servers, exceeds a predetermined maximum (Column 3, lines 33-36; Column 4, lines 46-49; it may be interpreted that if dynamic reallocation of work occurs due to too many requests that there is a predetermined maximum):

adding at least one additional physical server to said system (Abstract, lines 6-9; Column 3, lines 33-36; Column 4, lines 46-49; Column 5, lines 63-67; Column 6, lines 1-3);

remapping at least one of said logical servers across said at least one physical server including said additional physical server so as to redistribute said workload according to a predefined formula (Abstract, lines 6-9; Column 3, lines 33-36; Column 4, lines 46-49; Column 5, lines 63-67; Column 6, lines 1-3 and 12-17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Coughlin by dynamically adding physical datastores and remapping a logical datastore in response to exceeding a predetermined maximum as taught by Factor in order to allow for dynamic, transparent addition of physical datastores (Factor, Abstract, ln. 6-9) for the purposes of easily adding physical capacity and processing power to a distributed system.

27. As to claim 8, Coughlin discloses the invention substantially are in parent claim 6, but is silent on said system further comprises an application programming interface configured to allow a user to

monitor a workload allocated to each of said at least one physical server;

recognizing at least one additional physical server;

remapping said at least one logical server across said at least one physical server including said additional physical server so as to redistribute said workload.

However, Factor does disclose said system further comprises an application programming interface configured to allow a user to

monitor a workload allocated to each of said at least one physical server (Column 3, lines 33-36; Column 5, lines 55-57);

recognizing at least one additional physical server (Abstract, lines 6-9; Column 5, lines 63-67; Column 6, lines 1-3);

remapping said at least one logical server across said at least one physical server including said additional physical server so as to redistribute said workload (Abstract, lines 6-9; Column 3, lines 33-36; Column 4, lines 46-49; Column 5, lines 63-67; Column 6, lines 1-3 and 12-17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Coughlin by allowing a user monitor workload and adding physical datastores and remapping a logical datastore in response as taught by Factor in order to allow for dynamic, transparent addition of physical datastores (Factor, Abstract, ln. 6-9) for the purposes of easily adding physical capacity and processing power to a distributed system.

28. As to claim 9, the claim is rejected for the same reasons as claim 7 above.

29. As to claim 10, Coughlin discloses the invention substantially as in parent claim 6, but is silent on said system comprises at least two physical servers and further comprises computer executable instructions for performing the steps of: monitoring a workload allocated to each of said corresponding physical servers;

if said workload, on any of said physical servers, individually or in combination, falls below a predetermined minimum;

remapping at least one of said logical servers so as to redistribute said workload according to a predefined formula.

However, Factor does disclose said system comprises at least two physical servers and further comprises computer executable instructions for performing the steps of: monitoring a workload allocated to each of said corresponding physical servers (Column 3, lines 33-36; Column 5, lines 55-57);

if said workload, on any of said physical servers, individually or in combination, falls below a predetermined minimum (Column 3, lines 37-39; it may be interpreted that if dynamic reallocation of work occurs due to too few requests that there is a predetermined minimum);

remapping at least one of said logical servers so as to redistribute said workload according to a predefined formula (Abstract, lines 6-9; Column 3, lines 33-36; Column 4, lines 46-49; Column 5, lines 63-67; Column 6, lines 1-3 and 12-17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Coughlin by monitoring workload and redistributing workload in response to a server falling below a predetermined minimum workload as taught by Factor in order to ensure that workload is balanced across the physical servers and that each server is not being underutilized.

30. As to claim 12, the claim is rejected for the same reasons as claim 5 above.

31. As to claim 16, Coughlin discloses the invention substantially as in parent claim 6, but is silent on said request comprises at least one consumer identifier;

said at least one logical server is programmed to process a plurality of requests corresponding to a plurality of consumer identifiers;

said determining step is based on matching a request with a specific consumer identifier to its corresponding logical server.

However, Factor does disclose said request comprises at least one consumer identifier (Column 4, lines 11-15);

said at least one logical server is programmed to process a plurality of requests corresponding to a plurality of consumer identifiers (Column 3, lines 59-67; Column 4, lines 11-15);

said determining step is based on matching a request with a specific consumer identifier to its corresponding logical server (Column 3, lines 59-67; Column 4, lines 11-15).

32. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirschfeld, in view of Factor.

33. As to claim 22, Hirschfeld discloses a method for distributing a workload, which utilizes a plurality of physical and logical servers, comprising the steps of:

receiving a request for work at a processing node (Col. 6, ln. 64 – Col. 7, ln. 62);

examining said request for an identifier (Col. 3, ln. 12-20);

determining a logical server out of said plurality of logical servers which has been configured to accept requests associated with said identifier (selected logical server) (Col. 3, ln. 12-20);

determining a physical server associated with said selected logical server (associated physical server) (Col. 7, ln. 49-62);

routing said request to said physical server (Col. 7, ln. 49-62);

sending said request to said selected logical server (Col. 3, ln. 12-20).

processing said request on said selected logical server (Col. 3, ln. 12-20).

Hirschfeld is silent on monitoring said plurality of physical servers for said workload to exceed a predetermined maximum on any of said plurality of physical servers;

redistributing a mapping of said logical servers to said physical servers to achieve a workload balanced according to a predetermined formula.

However, Factor does disclose said plurality of physical servers for said workload to exceed a predetermined maximum on any of said plurality of physical servers (Col. 3, ln. 33-36; Col. 4, ln. 46-49);

redistributing a mapping of said logical servers to said physical servers to achieve a workload balanced according to a predetermined formula (Abstract, ln. 6-9; Col. 3, ln. 33-36; Col. 4, ln. 46-49; Col. 5, ln. 63-67; Col. 6, ln. 1-3 and 12-17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hirschfeld by monitoring for an exceeded maximum on physical servers and redistributing a mapping of logical servers to physical servers to achieve workload balance as taught by Factor in order to avoid a server becoming a bottleneck in processing (Factor, Col. 3, ln. 33-36).

34. Claims 19-21 are rejected under 35 U.S.C. 102(e) as anticipated by Hirschfeld or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hirschfeld, in view of Hubbard, U.S. Patent No. 6,963,897 B1.

35. As to claim 19, Hirschfeld discloses said entity comprises a family (Col. 3, ln. 12-20; users of a computer system may include any type of individuals or groups, including families).

Alternatively, Hubbard discloses said entity comprises a family (Col. 32, ln. 55-58).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hirschfeld by including families as a type of entity as taught by Hubbard in order to allow remote families to share data via the Internet (Hubbard, Col. 32, ln. 55-58).

36. As to claim 20, the claim is rejected for the same reasons as claim 19 above. If one would be motivated to share or distribute data between remote families, one would be motivated to do the same for remote employees.

37. As to claim 21, the claim is rejected for the same reasons as claims 18-20 above.

Conclusion

38. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Whipple whose telephone number is (571) 270-1244. The examiner can normally be reached on Mon-Fri (8:30 AM to 5:00 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BPW

Brian P. Whipple
9/6/07

BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER
9/17/7